2017

Research Foundation Overview

University of Maine

TreMonti

2017

RESEARCH FOUNDATION OVERVIEW

Recommendations for Establishing a Non-Profit Foundation

Prepared For

1865 THE UNIVERSITY OF MAINE

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OVERVIEW

The University of Maine's (the "University") research enterprise has grown significantly over the past decade. The University has developed some unique processes, functions, and structure to allow it to grow the research enterprise in a manner that supports the University and its researchers but with a focus on local and state economic development. At the same time, it has maintained the reporting requirements to all its stakeholders. The Advanced Structures and Composites Center (ASCC) provides one example of how the University has leveraged its intellectual capital to develop commercially relevant research opportunities at the University.

However, as the research enterprise continues to grow, though, there is concern that these processes could be strained. Based on discussions with faculty, research leaders and administration, there are concerns that maintaining the current structure could limit the ability to continue growth and limit the ability to retain certain technical expertise required to grow. Moreover, over time, the current structure may not allow the University to be nimble in its corporate relations and economic development efforts.

The University is interested in continuing to grow innovation and commercialization activities, support the education of the University's students, and grow economic development opportunities in the state and region. The University has requested that TreMonti Consulting, LLC ("TreMonti") assess the current research and technology commercialization enterprise at the University and make recommendations concerning the suitability of the establishment of a non-profit foundation to support the growth of these activities in a nimble and sustainable fashion.

Based on interview with peer organizations and a review of current trends, we believe that the University would benefit from the establishment of a university-related foundation to enable:

- More flexible and specialized recruitment, retention, and compensation practices;
- More nimble product sales and payment practices;
- Afford the University a vehicle for non-traditional, opportunistic investments and research and commercialization efforts; and,
- Position the University for continued growth of institutional infrastructure to adapt to changing environment.

Scope of Review/Methodology

As a first step in our assessment process, TreMonti visited the University on February 23 and 24, 2017, and met with the following stakeholder groups:

- Advanced Structures and Composite Center
- Office of Technology Commercialization
- Office of Innovation and Economic Development
- Process Development Center
- Academic leadership (Deans, Department Chairs, etc.)
- Office of Research and Graduate Studies
- Senior University leadership
    - University Counsel
    - Office of the President, Office of the Provost
- University of Maine Foundation
- Office of Facilities and Real Estate

During our visit, we were consistently impressed with the extensive research and development infrastructure, commercialization capabilities, and consensus of institutional stakeholders regarding aspirations, concerns, and openness to entrepreneurial thinking concerning the establishment of a new support function.

Our stakeholder meetings resulted in identification of the consistent University's concerns regarding missed industrial research opportunities; suboptimal commercialization flexibility (direct sales of products, nimble acceptance of payments, etc.); constraints on talent identification, recruitment, retention, and compensation; management of physical plant, property, and equipment (overhead, liquidation, maintenance, single source, etc.) industrial connectivity, and grant funding.

TreMonti has identified a group of peer institutions with related foundations that may serve as informative data points for consideration. References to those institutions are provided throughout this report.

Finally, TreMonti (in coordination with Kris Burton) interviewed several representatives of these peer institutions and other research foundations for insights to strengths and weaknesses of the specific support foundation model implemented at his/her institution (March 12-15, 2017 at Association of University Technology Managers Annual Meeting).

In view of this stakeholder analysis and our review of peer institutions, in this report TreMonti will provide:

1. An overview of the historical context for the establishment of foundations at universities;
2. A snapshot of current trends in university research and administration;
3. An overview of the structural and functional options;
4. A summary of structure and functional practices at relevant peer institutions;
5. A discussion of potential drawbacks;
6. A detailed case study for one such representative foundation - University of Virginia Licensing & Ventures Group; and
7. A summary and recommendations specific to the University of Maine.

BACKGROUND

Research

The University of Maine is a public research university in Orono, Maine, United States. The university was established in 1865 as a land grant college and is the flagship university of the University of Maine System. The University of Maine is one of only nine land, sea and space grant institutions in the nation. With an enrollment of approximately 11,000 students, the university is the state's largest research university. In Fiscal Year 2015, the university had over $51 million in extramural funding and more than $79 million in research expenditures. In addition to research undertaken by individual labs, the University maintains fifteen (15) research institutes and centers.

They are:

- Advanced Manufacturing Center
- Advanced Structures and Composites Center (ASCC)
- Aquaculture Research Institute
- Center for Community Inclusion and Disability Studies
- Center for Research on Sustainable Forests
- Center for Undergraduate Research
- Center on Aging
- Climate Change Institute
- Forest Bioproducts Research Institute
- Laboratory for Surface Science and Technology
- Maine Center for Research in STEM Education (the Maine RiSE Center)
- Maine Sea Grant
- Margaret Chase Smith Policy Center
- National Center for Geographic Information and Analysis
- Senator George J. Mitchell Center for Sustainability Solutions.

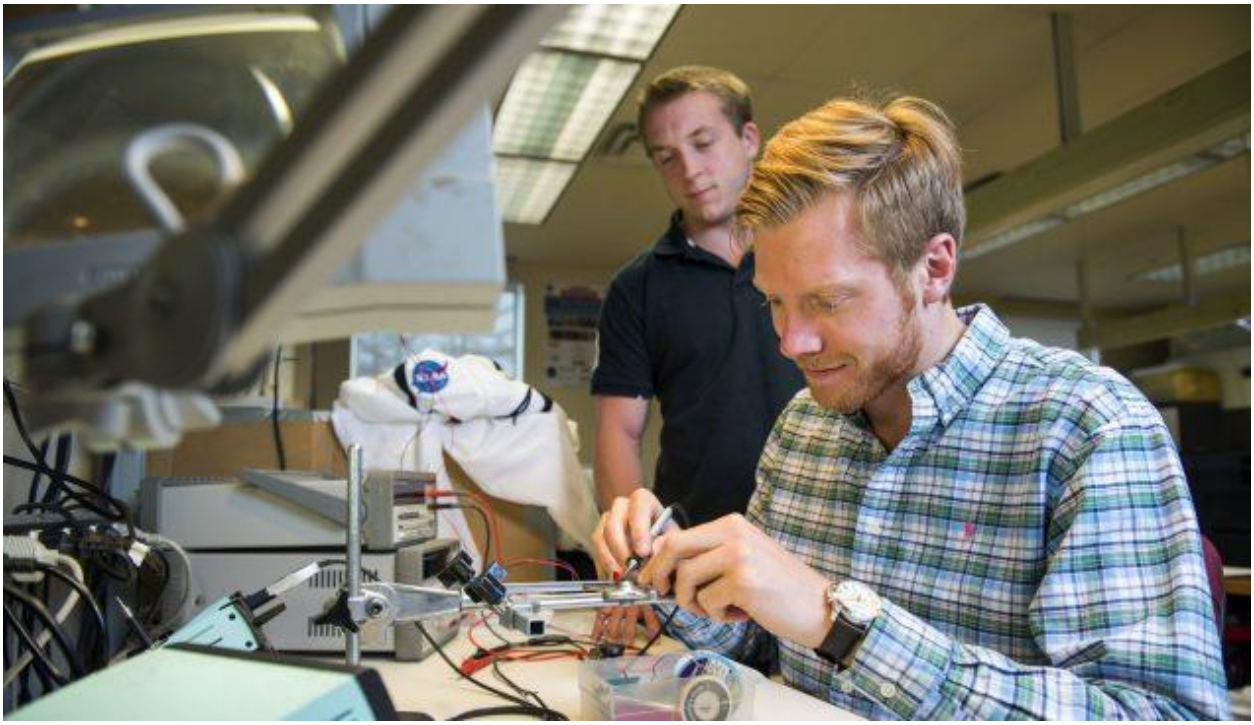
These research centers and institutes provide a nexus for innovation, education, and economic and policy development that focuses on Maine and its local communities. For example, since 1996, the ASCC has financially supported more than 2,000 positions for undergraduate and graduate students, served more than 500 industrial and governmental

clients including 150 Maine companies, and formed 14 spinoff companies through licensing agreements of patents or trade secrets. Although all of the centers are active in research and innovation, the greatest balance of activity is in the Advanced Manufacturing Center, the Forest Bioproducts Research Institute, the ASCC, and the Aquaculture Research Institute.

One unique feature of the ASCC is that it maintains salaried researchers and engineers that are not tenured positions. These positions are there to support translational research and development for external contracts and for the development of promising innovations developed at the University.

Innovation, Technology Commercialization, and Economic Development

The Office of Innovation and Economic Development (OIED) at the University is responsible for supporting innovative research at the University as well as attracting and working with corporate sponsors. Additionally, OIED works to support new ventures in the community. OIED covers several programs including technology transfer (Department of Industrial Cooperation), new ventures, and economic development.



Structuring Sustainable Growth

As indicated above, the University has developed a robust research and innovation infrastructure that has focused on practical student education, supporting economic development in the state of Maine, and technology commercialization. However, as the technology commercialization and economic development opportunities increase, the University wants to make sure that it can effectively and sustainably support such growth.

Since universities have traditionally focused on education and research, their structure and tax status have limitations when it comes to engaging in commercial or economic development activities. Depending on whether the institution is public or private, state legal requirements, and the level of their research activities, a university may be able to work around these issues using existing structures. For example, many universities now have the infrastructure to deal with the commercialization of intellectual property developed through their research, although this type of activity was never considered when the university was initially founded. However, as the variety of research actives grows and the expectations on the university to support economic development activities, existing structures may start to limit opportunities or expose the institution to increased risk.

One method of addressing these institutional limitations has been to develop a separate, nonprofit corporation to manage the institutions intellectual property estate and associated research opportunities. One of the first to do this was the University of Wisconsin, which created the Wisconsin Alumni Research Foundation in 1925 to support the commercialization of the process for using ultraviolet radiation to add vitamin D to milk and other foods. WARF has been a leader in using this structure consistently in line with its original mandate: "the business and purpose of the corporation shall be to promote, encourage and aid scientific investigation and research at the University of Wisconsin by the faculty, staff, alumni and students thereof, and those associated therewith."

The University of Maine is in somewhat of a different situation from other peer institutions in that a research foundation does not currently appear to be necessary to work around structural issues. However, the University wants to contemplate whether the creation of a research foundation will facilitate the development and commercialization of technologies emerging from ASCC and other University research centers. Moreover, the use of a research foundation may mitigate the development of issues that might expose the University to risk or hinder the commercialization of technologies, such as:

- Engaging in the sales of products or materials
- Ability to accept certain types of donations
- Providing market rate compensation for talented employees
- Flexibility in accepting research arrangements with commercial partners.

RESEARCH FOUNDATIONS

Historical Context

University related research foundations and corporations have existed for many years. In most cases, they were established for one or more of the following reasons:

- ***Segregation of public and private funds***

  Chief among the reasons associated with the establishment of university related foundations is the desire of many institutions to segregate public funds administered by the university (federal expenditures, state appropriations, etc.) from private funds (donor gifts, endowment proceeds, etc.). Unlike federal and state funds, universities may more flexibly deploy private funds. Co-mingling of these funds likely results in all activity being governed by the constraints of the federal and/or state portion. Accordingly, clear separation of these assets may ease their administration.

- ***Risk management***

  Following the passage of the Bayh-Dole Act in 1980 (and in some cases immediately prior), many universities began engaging in intellectual property management and technology commercialization. As this was a new field (at least on the surface) fraught with new risks and liabilities (product liability, infringement liability, etc.), universities sought to build a "corporate veil" or layer of insulation between the new organizations engaging in this activity and university resources/endowments.

- ***General flexibility and efficiency***

  In addition to the enhanced flexibility associated with private funds administration, a private foundation may also insulate the practices of the foundation from certain governmental and/or policy constraints. The constraints that are most frequently cited as challenges include:

  State and Federal Freedom of Information Act (FOIA) – Many foundations believe that the private foundation structure may insulate it from requests for disclosure of "public" information related to business development activity, proprietary information, confidential contracts, donor databases, etc.

  State and institutional procurement practices – Such practices may include sole-source justification requirements, selection from approved vendor lists (particularly for the engagement of legal counsel including patent counsel), etc.

  State employment practices – May include academic salary grading, required posting periods, mandatory term appointments, and constrained incentive compensation capability.

Pricing schemes and academic indirect costs rates – In our experience, university prescribed cost rates can be too high (most often in cases of rendered services) or too low when only time and material costs can be billed to a client.

- ***Ownership and management of non-traditional academic assets***

  Many institutions have established foundations to manage real-estate assets on behalf of the university. This practice is most common for the establishment of research parks. In cases in which such real-estate assets can also be built with private funds, some constraints on their management and utilization are eased in this structure.

- ***Entrepreneurial flexibility***

  The Wisconsin Alumni Research Foundation (WARF) established in 1925 to protect and commercialize an invention by a university faculty member. The standard practice at the time was not to protect such discoveries by academicians.

  Today, intellectual property management and commercialization is commonplace, but many institutions are still prohibited from opportunistically pursuing more entrepreneurial commercialization endeavors such as holding equity in privately-held companies.

- ***Insulation from institutional academic/political hierarchy***

  In our experience, the administration of many universities is, perhaps rightly so, relatively egalitarian. All contracts, space requests, resource allocation, etc. is administered as equally as possible. If any preferential treatment is offered, it is likely a result of institutional evaluation of academic performance via promotion and tenure processes (in most cases exclusive of commercial activity). The establishment of a separate foundation with a different charge may enable a different prioritization of certain activities (commercialization, industry engagement, etc.) and associated disproportionate resource allocation on different mission-oriented priorities.

RELEVANT CURRENT TRENDS

It is also important to consider the establishment of an affiliated foundation in view of current trends that may affect research and commercialization activities in higher education.

The relevant trends include:

- **Shift in emphasis for existing federal research expenditures**

  During the last 10-15 years, federal research expenditures have become increasingly oriented to more "translational and applied" research. Even traditionally "basic" research funding agencies have started to require descriptions of commercial and/or clinical impact in proposals.

- **Stagnation of federal research expenditure growth**

  Growth of federal research expenditures has stagnated after artificial, economic stimulus driven spending. As a result, competitiveness for federal grants has increased tremendously, with some funding lines hovering in the single digits. The current administration has announced that it will seek approximately 10% cuts in the federal research enterprise, including NSF.

  These trends have resulted in tremendous urgency and pressure on universities to diversity institutional research expenditures away from current dependence on federal sources (particularly the NIH and NSF). The available alternative sources of funding (venture philanthropy, industrial, etc.) are increasingly translational and commercialization oriented.

  In contrast, Department of Defense expenditures on research may remain strong. These funds are typically administered via contract, not grant, and are also oriented to improving the technology readiness level of the subject research.

- **Consolidation of venture funds and movement away from early stage**

  According to the Association of University Technology Managers Licensing Survey, university start-up formation grew by 11% in 2015. In our experience, too, start-ups are becoming an increasingly common commercialization outlet.

  At the same time, the venture capital investment markets have fully recovered from recession lows. However, since that time, there has been significant consolidation (fewer, larger funds remain) in this asset class. Further, the number of investments in early-stage companies remains at historic lows.

  As a result, universities are continuously seeking ways to further resource the "de-risking" of university technology assets to drive ultimate commercial adoption.

- **Decreasing state appropriations for university operating budgets**

  The recent economic recession, increasing costs of state-administered health care, increasing enrollment, and increased institutional operating costs have resulted in decreases in state appropriations as a percent of institutional operating budgets.

- **Increased pressure from state governments for universities to drive economic development**

  Despite recent decreases in the percent support for higher education, state legislatures are increasingly seeking university contribution to economic growth.

- **Heightened intensity in competition for top faculty, staff, and students**

  Competition for top faculty and staff is at an all-time high. Our university clients have indicated that such recruits are increasingly requesting interviews with translational research, industry relations, and technology commercialization officers at the university prior to accepting a position.

  This trend is also very apparent among top student applicants. Schools with significant research expenditures, but also strong commercialization and entrepreneurship environments are most competitive for this top talent.

This confluence of trends has led many universities to seek to strengthen their capacity to effectively engage with industry, to support translation and commercialization, and to opportunistically launch new ventures from the university portfolio.

In our experience, universities are increasing resource allocation to units at the university that engage in supporting activities, are launching new units to fill voids in current infrastructure, and consolidating units to present a "front door" to industrial and entrepreneurial engagement.

Specific examples of this increased activity are the newly launched Business Engagement Center at Virginia Tech[1], University of California-Irvine Applied Innovation[2], and the Purdue Research Foundation[3].

[1] - https://vtnews.vt.edu/articles/2017/01/research-engagementcenter.html
[2] - http://innovation.uci.edu
[3] - https://prf.org

Institutional function/units that are candidates for integration include:

- Intellectual property management
- Grants/contracts administration
- Compliance
- Research Parks
- New Ventures support activities
- Research Support
- Industry Consortia
- Translational Research
- Commercial Research & Development
- Investment Fund Management (Seed and Venture funding)
- Corporate/Foundation Relations
- Research Endowment management (WARF)

We believe there will be continued growth in the trend toward establishment of affiliated foundations to consolidate and support these functions/units.

STRUCTURAL/FUNCTIONAL OPTIONS

Legal incorporation (Strong Consensus)

The majority of foundations established at peer institutions (see Table 1) are established as non-profit corporations established pursuant to Section 501(c)(3) of the Internal Revenue Code[4]. On this point, there is considerable accord among institutions.

Charitable Purpose(s) (Strong Consensus)

Similarly, the charitable purpose of nearly all research foundations establishes that the foundation exists solely for the benefit of the "parent" university/institution.

Degrees of Institutional Oversight (High Variability)

In contrast with the legal incorporation status and charitable purposes, there is considerable variation among peer foundations in the degree of institutional oversight/independence. For the purposes of this report, institutional oversight is defined as the review, authorization, and support of the activities, operations, finances, and legal administration of the foundation.

Many factors contribute to the degree of oversight sought and achieved by a university in the establishment of a support foundation. Further, the degree of oversight may change/evolve over time. Accordingly, in our experience, it is useful to consider the degree of oversight on a continuum from an integrated functional unit of the university on one end to an unrelated, independent organization on the other.

In our experience, the key criteria to consider in establishing the foundation is the degree of desired oversight by the University, not necessarily that level desired by the foundation. While we acknowledge that one of the goals of a foundation is to become less encumbered by state and institutional policy, legal, and bureaucratic constraint; we believe a certain level of institutional oversight is prudent. The degree of such oversight sought is determined by institution officials in view of risk tolerance, etc.

Institutional oversight is typically sought and achieved through some combination of the following:

- ***Policy (High Variability)***

  The university, state, or governing board may create a policy governing the establishment, oversight, and administration of such related foundations. Such policies, particularly common at institutions with more than one related foundation, frequently memorialize expectations of the foundation with respect to lines of business, accounting practices, etc.

[4] - http://treasurer.virginia.edu/university-foundation-relations

- ***Governance (Strong Consensus/High Variability)***

  Nearly all foundations we considered have established a board of directors for the oversight of the activities and finances of the foundation. Similarly, in nearly all of these foundations, certain institutional officials assume seats on this board. It is not uncommon for an executive such as the president of the university, the vice president for research, the vice president for economic development, and/or the vice president for development to assume a role on these boards.

  There is, however, considerable variation among the voting status of these officials. There is also considerable variation among the number of independent board members (and thus the internal/external voting control of the board) appointed to the board.

- ***Contractual (High Variability)***

  Rather than or in addition to policy and governance oversight, universities may elect to contract with a related foundation to render certain services to the university or on its behalf. In this scenario, the legal agreement between the parties governs the relationship.

- ***Resource Allocation/Financial Support (High Variability)***

  Consistent with the objective to operate solely for the benefit of the supported university, most universities have established guidelines for the delegation of funds to and from related foundations. In those foundations with considerable financial and physical assets under management, emphasis is placed on funds return to the university. In those foundations with more limited functional responsibilities, practices concerning allocation of university resources to support the foundations are more prevalent.

  Such resource allocations and financial support can be implemented by policy or by contract.

Foundation	Board Composition	Policy/Contract/Other
Clemson University Research Foundation	13-25 (One more external than internal)	Operating agreement (5 year renewable contract)
North Dakota State University Research Foundation	13 (5 university)	State policy, University policy, and annual contract
University of Virginia Licensing & Ventures Group	12 (40% university)	University policy, annual contract
University of Iowa Research Foundation	19 (15 university)	Policy
Georgia Tech Research Corporation (GTRC)	12 (3 university)	Contract

Staffing (High Variability)

Foundations can be staffed with either employees of the foundation or employees of the supported university. Maintaining an "in-house" staff requires additional managerial infrastructure and expense (payroll, benefits, human resources policies/practices, etc.). Leveraging employees of the university (via contract or otherwise) has administrative advantages, but limits flexibility for recruitment, retention, and compensation. In some instances, a foundation may only employ (either full-time or part-time) an executive director to administer business of the foundation.

Foundation	Employees
Clemson University Research Foundation	Yes (Invoiced to University)
North Dakota State University Research Foundation	Yes, 1/2 salary/fringe support
University of Virginia Licensing & Ventures Group	Yes
University of Iowa Research Foundation	No. Employees of state
Georgia Tech Research Corporation (GTRC)	No. Employees of university

Ownership of Assets (High Variability)

Many foundations own and control certain assets. Examples include privately financed research buildings and equipment and corporate research parks. In some instances, the university may also assign certain or all intellectual property assets to the foundation.

Foundation	Assignment of IP	Functions Housed
Kansas State University Research Foundation	Yes	Licensing/New Ventures, funding for research
Clemson University Research Foundation	Yes	Licensing/New Ventures, Internal "maturation" fund administration ($300K)
North Dakota State University Research Foundation	Yes, on "pursue" decision	Licensing/New Ventures
Virginia Tech Intellectual Properties	Yes	Licensing/New Ventures
University of Virginia Licensing & Ventures Group	Yes	Licensing/New Ventures
University of Iowa Research Foundation	Yes	Licensing/New Ventures
Purdue Research Foundation	Yes	Licensing/New ventures, Manage Research Park, accept gifts, administer trusts, acquire property, negotiate research contracts
Georgia Tech Research Corporation (GTRC)	Yes	Operational and Researcher Support, Accounting & Reporting, Licensing/New Ventures

Legal (High Variability)

In those instances, in which risk management factored heavily in to the establishment of the foundation (and particularly in those instances with strong institutional oversight of foundation activities), the general counsel of the university may require certain contractual review and approval. Such review and approval may manifest in signature approval by university general counsel, limited delegated contractual authority (e.g. financial materiality thresholds), and/or legal "guardrails" on required provisions (e.g. indemnification, retained rights, warranty disclaimers).

Resource Allocation (High Variability)

There is no single funding model that dominates amongst research foundations. As noted above, often the funding model is driven by the size of the assets held by the foundation and the level of institutional oversight. However, in our discussions with peer institutions, it was noted that funding in many foundations, whose primary purpose is to support technology commercialization efforts, was solely from licensing income. Invariably, the foundations had been developed as a work around to existing structures, but the funding had not been adequately anticipated. As a result, these foundations may struggle financially to achieve the functions set out in their charter.

Foundation	Funding Model
Kansas State University Research Foundation	Licensing Revenue
Clemson University Research Foundation	University/Licensing Revenue (15%)
North Dakota State University Research Foundation	University/Licensing Revenue
Virginia Tech Intellectual Properties	University/Licensing Revenue
University of Virginia Licensing & Ventures Group	University
University of Iowa Research Foundation	Licensing Revenue
Georgia Tech Research Corporation (GTRC)	Research overhead (21.7%)

BARRIERS & DRAWBACKS

There may be several potential drawbacks associated with the establishment and operation of a separate foundation. Most of these drawbacks, however, appear more frequently as foundations exist and behave more independent of the university. Accordingly, awareness of the potential drawback in advance likely enables construction of the foundation to minimize the practical impact of each drawback.

Administrative redundancy and expenses

There are several required expenses associated with the establishment and maintenance of a non-profit foundation. In addition to the obvious legal expenses to incorporate and apply for non-profit status, a tax-exempt organization must prepare and submit a form 990 tax return annually.

Many of the foundations we engaged are also obligated by policy to perform certain annual audits – financial accounting, license compliance, or other in order to comply with institutional policies on related foundations. These audits/reviews can be time-intensive and costly. Other, potentially costly requirements may include insurance policies,

Further, in at least one institution, we are aware that the university office of general counsel will not provide legal guidance, support, or interpretation to the foundation because there is no client relationship with the foundation (only with the university proper). This position necessitates the foundation's procurement of outside legal services (once delivered by the general counsel) (administrative redundancy) and the foundation's expense (additional expense).

If/When a foundation becomes the formal employer of staff, the foundation must administer payroll, benefits, human resources services, etc. The infrastructure required to perform this routine activity must be built (or as recommended procured) and is redundant (with an added expense) to that available inside the university.

"You are not us" mentality

In situations in which the foundation is established with very apparent separation from the university in one of structure or function, this separation may result in a confusion or (worse) a belief among the faculty, staff, and students that the foundation's interests are not aligned with the university. This is a natural conflict that already exists in technology commercialization in an academic enterprise, but it may be compounded by the establishment of a separate organization to perform this function.

Sovereign immunity before the Patent Trial and Appeal Board (PTAB)

Just this year, the University of Florida Research Foundation prevailed in an application of sovereign immunity to defend an *inter partes* review before the United States Patent & Trademark Office's PTAB. These reviews have become the first venue for patent invalidity arguments by alleged infringers. Before the PTAB, a strong majority of claims are held invalid. Accordingly, the ability of an "arm of the state" to claim immunity from such proceedings bolsters both the strength and potential value of its patent portfolio. In the case of the University of Florida Research Foundation, several criteria ("Manders criteria") were applied to evaluate the separate foundations connectivity to the state. If a foundation is established that does not meet with at least some of these criteria, this useful advantage of state-owned intellectual property may be lost.

DETAILED CASE STUDY – UNIVERSITY OF VIRGINIA LICENSING AND VENTURES GROUP

One exemplary foundation for consideration/comparison (with which we have extensive experience) is the University of Virginia Licensing & Ventures Group (UVA LVG).

Establishment/Organization

Founded by the University of Virginia in 1977 as the University of Virginia Alumni Patents Foundation (UVAPF), and subsequently renamed the University of Virginia Licensing & Ventures Group, UVA LVG is a Virginia non-stock corporation and 501(c)(3) pursuant to the Internal Revenue Code.

UVA LVG was established for three primary reasons:

1. Risk management – At the time of its founding, university technology commercialization was in its infancy, and distancing such (perceived) high-risk activities from the academic enterprise (and associated endowments) was deemed prudent by institutional stakeholders.
2. Efficiency – As an arm of the state, any University of Virginia legal counsel is provided by the Commonwealth of Virginia Office of the Attorney General and their approved vendors. For intellectual property matters, this list of approved vendors is limited.
3. Insulation from other state agency constraints – FOIA, COIA, etc.

Several layers of institutional oversight govern the activities of the UVA LVG.

Policy

The University of Virginia maintains 27 affiliated foundations[5] and each is subject to the UVA Policy on University-Related Foundations[6]. Pursuant to this policy, related foundations are "established and organized solely for the University's benefit." In exchange for the University's formal recognition and utilization of University's name, the University requires each foundation comply with the policy. The policy requires one voting board seat for each of (i) one member of the Board of Visitors of UVA and (ii) one person appointed by the President of the University. It requires University an annual independent audit of each foundation's finances and an annual report on compliance with the policy. Further, the University must approve establishment and alteration of foundation bylaws, financial strategies (assuming indebtedness), and any material changes in the activities of the

[5] - http://treasurer.virginia.edu/university-foundation-relations
[6] - https://uvapolicy.virginia.edu/policy/BOV-008

foundation. Further, the University must approve the selection and contract of the Executive Director.

Governance

Pursuant to its bylaws, UVA LVG is governed by a board of directors currently comprised of 12 members.[7] In addition to the seats required by the policy, the bylaws also stipulate *ex-officio* seats for (i) UVA's Executive Vice President for Health Affairs and (ii) UVA's Vice President for Research. The bylaws further require that sufficient appointments to UVA LVG's board are granted to the President of the University to ensure that University representation on the board exceeds at least 40% of the voting membership.

Contract

In 2011, UVA and UVA LVG reached agreement on a Memorandum of Understanding for the operation and administration of UVA LVG. This five-year MOU (amended for subsequent five year terms on mutual agreement of the parties) requires that UVA LVG submit to UVA (via the Office of the Vice President for Research) an annual statement of work, budget, and draft contract for services each year at least ninety days prior to the start of a new fiscal year. Pursuant to each annual contract for services, UVA LVG delivers intellectual property management, licensing, new ventures, industry contracts, research compliance support (Bayh-Dole and other sponsored research agreements), seed/venture fund investment services, incubator management, and limited physical space management. All intellectual property assigned to UVA per the University's intellectual property policy is assigned to UVA LVG for management.

Legal

Each annual contract for services affords the University, via its Office of General Counsel, the ability to establish the legal "guardrails" for UVA LVG's activities in the contract year. In this agreement, the University dictates its positions on retained rights and risk management (e.g. indemnification of UVA).

Resource Allocation

UVA covers all operating costs of UVA LVG via the annual services contract (via University procurement). In exchange, UVA LVG returns all proceeds that result from such activities to the University in accordance with the University's Innovation Revenue Distribution Formula or other appropriate agreement.

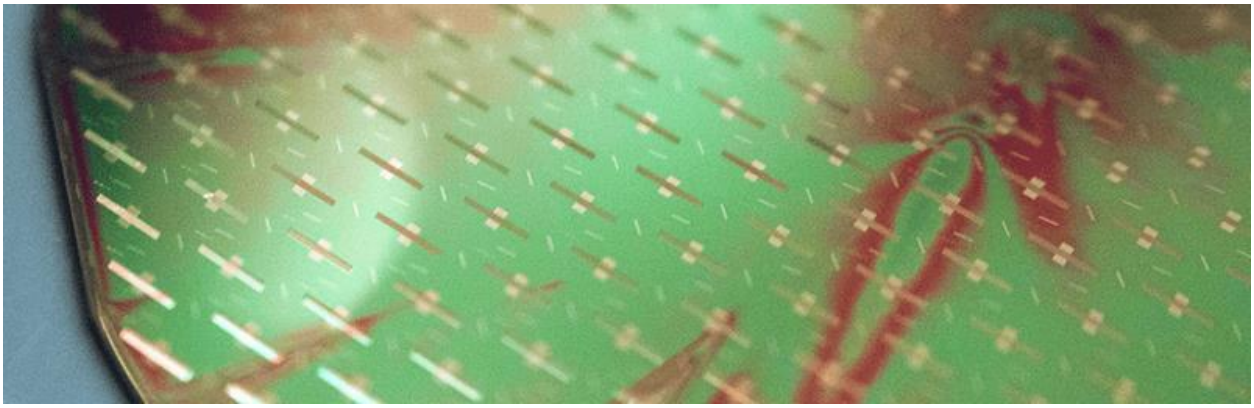
[7] - http://lvg.virginia.edu/about/board-of-directors

Staffing

All activities performed by UVA LVG in accordance with the annual services contract are rendered by employees of UVA LVG. UVA approves salary allocations only in the aggregate (exclusive of the Executive Director). UVA LVG's Executive Director (as delegated by the Board of Directors) is responsible for recruitment, retention, and compensation/benefits. Notwithstanding the foregoing, however, UVA LVG employees are entitled to many of the privileges of being an employee of the university (university identification cards, physical access to university facilities, other benefits, etc.). UVA LVG also maintains a budget allocation for outside consultants and experts.

Other Relevant UVA LVG Operational Notes

- UVA LVG manages its finances via QuickBooks™.
- UVA LVG distributes "products"[8] directly to end-users and maintains some (minimal) product liability insurance.
- UVA LVG accepts credit cards for payment via Square, Stripe, or PAYEZEE (SunTrust).
- UVA LVG has utilized at-large board appointments to leverage considerable external talent.[9]



[8] - Software, Apps, etc.
[9] - http://lvg.virginia.edu/about/board-of-directors

SUMMARY AND RECOMMENDATIONS

The University of Maine is contemplating whether the creation of a research foundation will facilitate the development and commercialization of technologies emerging from ASCC and other University research centers.

Institutions have generally established related foundations to engineer around specific inefficiencies in the university environment and to capitalize on business opportunities. Beyond this similarity, every situation is different and every institution that was reviewed has installed a different foundation (structure and function) to meet their unique needs. The result is that there is no single model can be set forth as "the one model" that will work for everyone.

Moreover, these issues are tempered with concerns about the extent of a foundation's activities (i.e., all of Sponsored Research vs. Limited functions such as Technology Commercialization), the effect of independence on ownership of "University" assets, and staffing questions.

Based on our discussions with University staff and our interviews with other foundations, we believe a university related foundation would be a valuable asset for the University of Maine that would support the development and commercialization of technologies emerging from ASCC and other University research centers and also support the growth of the University's economic development activities in Maine.

Functions

There are numerous functions that could be supported by this structure, such as:

- Research support services
- Stakeholder reporting
- Holding equity
- Holding intellectual assets
- Intellectual Property management and commercialization
- Industrial contracts
- Charitable vehicle for research support
- Research park development
- Prototype fund/Venture funding

Of course, functions could be expanded or limited depending on the charter of the foundation. We would recommend drafting the charter as broadly as possible, even if initially the foundation would only provide limited functions.

Summary of Research Foundation Functions

Table I: Intellectual Property Management & Commercialization

Function/Services	Cost Level	Timeline	Impact Notes
Patenting & Holding IP	Medium to High	0-12 months	Allows for flexibility in supporting key assets and releasing non-performing IP.
Marketing & Communications	Low to Medium	0-6 months	Greater speed and ease in updating marketing materials and engaging with stakeholders.
Holding Equity	Low	Immediate	Can hold equity from deals with equity provisions.
Flexibility in Deal Terms	Low	Immediate	Can agree to deal provisions that might not be acceptable to the university.
Ability to Transfer Materials	Low	Immediate	Direct customer sales allowed; not just for research services; Variety of payment solutions possible.
Seed/Venture Fund	High	12-18+ months	Seed/venture fund to support University (or even community) start-ups and ventures will have impact on attracting additional funding to the region.

Table II: Industrial/Partner Contracts & Donations

Function/Services	Cost Level	Timeline	Impact Notes
Speed of Contracting	Low	Immediate	Greater speed and flexibility in contracting with potential partners.
Marketing campaigns	Low	0-6 months	Educate internal and external stakeholders about activities and foci.
Donations	Low	Immediate	Flexibility in accepting non-targeted research donations or materials.
Flexibility Partnership Arrangements	Low	Immediate	Flexibility in funding and partnering agreements.

Table III: HR & Other

Function/Services	Cost Level	Timeline	Impact Notes
Market Rate Compensation	Medium	6-12 months	Alternative compensation structures can be developed outside of the University HR structure to allow for compensation of high value employees.
Strategic Hires	Medium	Variable	Hiring of specific talent either on an as need or full time basis without limitations imposed by University H/R infrastructure, timelines, or best principles.
Prototyping fund	Medium	6-12 months	Small scale funding to develop initial proof of concept. Sometimes can be hard to find for researchers.

The timeline of demonstrated results associated with successful implementation of the recommendations referenced above varies widely. The scale used is meant to show best-case scenarios, but as is often the case, a variety of factors may influence those timelines.

Structuring

Initial Steps

1. Perform a thorough review of state law and existing institutional precedent (University of Maine/University of Maine Foundation Memorandum of Agreement).

State law

In several states, state law establishes guidance for the creation of related foundations. For example, in the state of Florida, state law establishes guidance for "direct service organizations".[10]

Institutional Policy/Precedent

At the University of Maine, some institutional precedence appears to exist with the Memorandum of Agreement between the University of Maine and the University of Maine Foundation.

[10] - https://www.flrules.org/gateway/ChapterHome.asp?Chapter=27O-1

2. Establish a 501(c)(3) foundation and related infrastructure.

Consistent with the practices of all universities cited in this report, we recommend that the University establish a 501(c)(3) foundation with the express, stated mission of enhancing the research and commercialization enterprise at the University. It is critical that this mission and the foundation's charter clearly convey that the foundation exists solely for the benefit of the University.

Specific Structures

The specific structure chosen will be determined by the goals of the University. As indicated, a large number of existing foundations were built as the result of a need to work around existing university processes and regulations. Since the University has already developed processes to address limitations in current structures, this need may not be as pronounced. Instead the structure can be used to capitalize on near term business opportunities and provide a vehicle for long term planning.

Although it will ultimately be the University's comfort level with the structure (in addition to any state legal requirements), a foundation/research corporation with the following structure could achieve the University's goals:

- Independent from university
- Bound to the university by contract
- Single employee (Provost/Senior Research Administration) with a minimal salary
- Other staff "on loan" from the University
- Small, nimble board of directors (~3-5 members) comprised of at least 40% University representatives. This strong, yet minority, University representation on the board will enables an influential University voice but independence of decision-making. External seats could leverage community interest/support
- An executive director, likely employed by the University but with signatory authority for the foundation, is also recommended.

A structure such as this could provide the independence from the University to achieve certain functions (i.e., hold equity, etc.), preserve existing University H/R functions and benefits for the staff, and have direct coordination with the research and innovation functions of the University. Moreover, the structure would provide a level of risk management for the University by placing for profit business in a separate entity.

Functions

There are numerous functions that could be supported by this structure, such as:

- Research support services
- Stakeholder reporting
- Holding equity
- Holding intellectual assets
- Intellectual Property management and commercialization
- Industrial contracts
- Charitable vehicle for research support
- Research park development
- Prototype fund/Venture funding

Of course, functions could be expanded or limited depending on the charter of the foundation. We would recommend drafting the charter as broadly as possible, even if initially the foundation would only provide limited functions.

Funding

Until present, the University's innovation and economic development funding has been derived from the overhead on corporate sponsored research at the University. The change in structure should not initially change funding requirements. We would recommend that the foundation be funded through a budget line item that covers the activities of the Foundation. However, the University may want to re-evaluate the funding levels and sources in order to build up a reserve for certain existing functions or to develop new services to support the University's research enterprise (i.e., prototype fund, venture fund, research grants, etc.).